

Title (en)  
THERMOPLASTIC COMPOSITE MATERIAL

Publication  
**EP 0253335 A3 19890208 (EN)**

Application  
**EP 87110017 A 19870710**

Priority  
US 88654386 A 19860716

Abstract (en)  
[origin: EP0253335A2] A thermoplastic composite having a plurality of layers of material having a particular total thickness and a particular total volume, including a first layer of thermoplastic resin material forming a core. At least two layers of fabric material each overlaying an opposite side of the first layer to form an outer skin on the core. Two layers of thermoplastic resin material each overlaying one of the at least two layers of fabric to form an outer covering for protecting the layers of fabric and providing a smooth exterior. The thickness of the core forming a substantial percentage of the total thickness of the composite and the fiber volume of the at least two layers of fabric material forming less than one third (1/3) of the total volume of the composite.

IPC 1-7  
**B32B 27/12**

IPC 8 full level  
**A43B 17/00** (2006.01); **B32B 27/12** (2006.01)

CPC (source: EP US)  
**A43B 17/003** (2013.01 - EP US); **B32B 27/12** (2013.01 - EP US); **B32B 27/308** (2013.01 - US); **B32B 2260/021** (2013.01 - US); **B32B 2260/046** (2013.01 - US); **B32B 2262/0269** (2013.01 - US); **B32B 2262/101** (2013.01 - US); **B32B 2262/106** (2013.01 - US); **Y10T 442/365** (2015.04 - EP US)

Citation (search report)

- [A] FR 2447274 A1 19800822 - TOHO BESLON CO [JP]
- [A] EP 0102414 A1 19840314 - FOSS MFG CO [US]
- [A] FR 2121673 A1 19720825 - KEPEC CHEM FAB
- [A] US 3542616 A 19701124 - CAIN JAMES P, et al
- [A] FR 1594543 A 19700608

Cited by  
US7322950B2; US7316660B1; US7025737B2; WO2016185498A1

Designated contracting state (EPC)  
AT BE CH DE FR GB IT LI NL SE

DOCDB simple family (publication)  
**EP 0253335 A2 19880120**; **EP 0253335 A3 19890208**; **EP 0253335 B1 19911023**; AT E68750 T1 19911115; DE 3774014 D1 19911128; US 4778717 A 19881018

DOCDB simple family (application)  
**EP 87110017 A 19870710**; AT 87110017 T 19870710; DE 3774014 T 19870710; US 88654386 A 19860716